

# NAVAL POSTGRADUATE SCHOOL

## Monterey, California



# THESIS



**ANALYSIS OF THE DOD HOUSEHOLD  
GOODS/PERSONAL PROPERTY PROGRAM  
WITHIN CONUS**

by

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March 1995

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PROGRAM WITHIN CONUS

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## **ABSTRACT**

The Department of Defense is evolving into a more streamlined organization due to an ever changing geo-political climate and tightening fiscal constraints. Toward this end, it is imperative that the Department of Defense make sound decisions when contracting for goods and services.

In order to ensure fiscal targets for readiness are met, DOD must endeavor to find new and innovative ways to procure services for its civilian and military members. The Household Goods System (HHG) is a classic example where a new non-bureaucratic paradigm in which the HHG function is privatized might benefit DOD. First, privatization places the burden of the market place on the broker who should be better equipped to get the best rates available. Second, savings may be found in the reduction of infrastructure that supports the current system.



## TABLE OF CONTENTS

I.	INTRODUCTION . . . . .	1
A.	PRELUDE . . . . .	1
B.	DISCUSSION . . . . .	2
C.	SCOPE . . . . .	2
D.	ASSUMPTIONS . . . . .	3
E.	LIMITATIONS . . . . .	3
F.	RESEARCH QUESTIONS . . . . .	3
G.	ORGANIZATION OF THE THESIS . . . . .	4
II.	CURRENT DOD HOUSEHOLD GOODS SYSTEM . . . . .	5
A.	BACKGROUND . . . . .	5
B.	CLAIMS . . . . .	9
C.	TRANSPORTATION OPERATIONAL PERSONAL PROPERTY STANDARD SYSTEM . . . . .	11
D.	CONTRACTOR APPROVAL REQUIREMENTS . . . . .	12
E.	CARRIER TOTAL QUALITY ASSURANCE PROGRAM . . . . .	14
1.	Quality Control and Carrier Performance File . . . . .	14
2.	Carrier Assessment Program (CAP) . . . . .	15
a.	On-time Pickup . . . . .	16
b.	On-time Delivery . . . . .	16
c.	Estimating Loss/Damage . . . . .	17
3.	Quality Assurance Procedures . . . . .	18
F.	RATE BIDDING PROCEDURES . . . . .	19
G.	CONCLUSION . . . . .	20
III.	DATA PRESENTATION . . . . .	21
A.	INTRODUCTION . . . . .	21
B.	RESTATEMENT OF PURPOSE . . . . .	21
C.	FIELD STUDY . . . . .	22
D.	CORPORATE AMERICA . . . . .	29
E.	DATA PROBLEMS . . . . .	30



F.	BIDDING . . . . .	32
G.	TABLE PRESENTATION . . . . .	34
H.	DATA COMPARISON . . . . .	36
	1. DOD Shipments versus Military Population	37
	2. DOD and the Industry . . . . .	37
I.	CUSTOMER SATISFACTION . . . . .	38
	1. Poll Development . . . . .	38
	2. Poll Options . . . . .	40
	3. Poll Results . . . . .	40
J.	CLAIMS RECOVERY . . . . .	41
K.	CONCLUSIONS . . . . .	43
IV.	DATA ANALYSIS . . . . .	45
A.	INTRODUCTION . . . . .	45
B.	"ME TOO" AUCTION . . . . .	45
C.	COST . . . . .	49
D.	CUSTOMER DISSATISFACTION . . . . .	49
E.	PRIVITAZATION . . . . .	50
V.	CONCLUSIONS AND RECOMMENDATIONS . . . . .	57
A.	CONCLUSIONS . . . . .	57
B.	RECOMMENDATIONS . . . . .	58
	LIST OF REFERENCES . . . . .	61
	INITIAL DISTRIBUTION LIST . . . . .	63

## I. INTRODUCTION

### A. PRELUDE

As you sit in your office and all seems right with the world, the Duty Radioman shatters your calm with the announcement, "Your orders have arrived!" This long awaited moment is fraught with intense anxiety despite the fact that these two or three sheets of paper are your passport out of your current situation. As you eagerly devour the pertinent paragraphs concerning command, homeport and billet, you are relieved that the detailer essentially kept his word to you and even got you the thirty days leave you requested. While your angst slowly dissipates, a line concerning your authorization for a household goods shipment catches your eye. A sinking feeling pervades your very soul and the tranquility that had come over you is gone in a flash. "The government is going to move me." While this may be a case of hyperbole, it does accurately reflect the "conventional wisdom" of current military culture.

It is true that government cannot be supported without great charge, and it is fit every one who enjoys his share of the protection should pay out of his estate his proportion for the maintenance of it. (Locke, 1940).

In his seminal work concerning the responsibilities of government and the individual, John Locke lays out the essential truth of government funding. (Having made this insight, it is doubtful that Locke could find any two people in any age who would have agreed on their individual or respective proportion of the support.) The key to Locke's genius is that he defined the essence of public policy in basic, comprehensive terms: the individual funds the government so the government should act responsibly to discharge its mandate to govern wisely and effectively. This

codification of what we look upon today as common sense was revolutionary in its day and serves as a benchmark of the action of any responsible government.

Based as it were on sound philosophical ground, this thesis will investigate the military personal property movement system that is currently employed within the Continental United States and suggest potential problems with the system as it exists.

## **B. DISCUSSION**

The Department of Defense is evolving into a more streamlined organization due to an ever changing geo-political climate and tightening fiscal constraints. Optimizing the use of our financial resources is one of the many key factors, essential to maintaining the desired level of readiness in light of the current budgetary environment. Toward this end, it is imperative that the Department of Defense make sound decisions when contracting for goods and services.

In order to ensure fiscal targets for readiness are met, DOD must find new and innovative ways to procure services for its civilian and military members. The Household Goods System (HHG) is a classic example where a new non-bureaucratic paradigm in which the HHG function is privatized might benefit the DOD. First, privatization places the burden of the market place on the broker who should be better equipped to get the best rates available. Second, savings may be found in reducing the infrastructure that supports the current system.

In order to investigate the feasibility of privatization, we will examine the foundations of the current system and its place in the economic environment.

## **C. SCOPE**

The scope of this thesis will be limited to analyzing and evaluating the current DOD HHG system within CONUS. Specific

areas of investigation include: 1) Current system design, 2) Current market conditions, 3) Customer satisfaction, and 4) the viability of privatization.

#### **D. ASSUMPTIONS**

For the purpose of this thesis, the following assumptions apply: As stated above, the Continental United States system will be examined. Moves considered will be confined to permanent change of station or accession/discharge movements. The term "personal property" refers to household goods, unaccompanied baggage, privately owned vehicles and mobile homes/house trailers.

#### **E. LIMITATIONS**

For the purpose of this thesis, the following limitations were encountered: historical data on the number of moves made by the household goods industry CONUS wide was limited to 1985 through 1992; the number of DOD moves MTMC conducted was limited to the last five years, DOD only maintains five years of historical data.

#### **F. RESEARCH QUESTIONS**

It is our aim to answer the following questions: 1) Is the Department of Defense receiving the best value for its expenditures for HHG movements within CONUS? 2) Are service members satisfied with the current system? 3) Is it possible that privatizing the system would better serve DOD requirements for HHG moves?

Some of the secondary questions that this thesis will address are as follows: 1) Are changes feasible? 2) Is DOD a significant portion of the annual HHG movements within CONUS? If so, would this fact effect current market trends

precluding the government from attaining the best value? 3)  
What areas will be changed (entitlements, contracting  
requirements, etc...)?

#### **G. ORGANIZATION OF THE THESIS**

The following chapters of this thesis will give the reader an extensive overview of the current DOD household goods system and some alternative ideas to make it more efficient. Chapter II is background information on the current system. Chapter III examines the methodology employed and presents the data. Areas include a field experiment, a corporate comparison, industry and DOD moving statistics, and a customer satisfaction poll. Chapter IV analyzes the issues. Chapter V contains conclusions and recommendations.

## II. CURRENT DOD HOUSEHOLD GOODS SYSTEM

### A. BACKGROUND

This chapter will describe the personal property structural framework by answering the basic questions, "Who, Why, and How?"

The Military Traffic Management Command (MTMC) is responsible for personal property movements for servicemembers and Department civilians. MTMC is a jointly staffed major Army command under the cognizance of the U.S. Transportation Command. (DOD INST. 4500.34-R) While MTMC is responsible for the overall operation, each service runs offices that provide customer support to the servicemembers in the process of moving. The scope of operations in 1992 "equated to 505,000 household goods movements and unaccompanied baggage shipments and 118,000 privately-owned vehicle shipments." (MTMC, 1992) Having identified the system's organizational arrangement, the focus should now slew from "who" to "why."

Since the United States Constitution delegates raising and maintaining the military force to the legislature, it is not surprising that the "why" of personal property movements is found under the category of entitlements. Congress has enshrined in statute the entitlement to free movement of personal property as one benefit of military service when the prescribed conditions are met. For purposes of this discussion, prescribed conditions will be considered the receipt of permanent change of station or honorable discharge orders. (JFTR Series) While other circumstances may allow this entitlement, they are generally exceptions to the rule.

The basic rules governing entitlement to the shipment of household goods can be found in Chapter Five of the Joint Federal Travel Regulations. This document provides excruciatingly precise details of the entitlement benefits of the servicemembers. One of the most important facets of this

document is that it clearly establishes the amount of goods in terms of weight that may be shipped for each paygrade. (NAVSUP INST. 490) It also defines the role of the servicemember's component service in determining the boundaries of entitlement. (JFTR Series)

Having moved away from the alliterative queries, the "How" of household goods provides the reader with an excellent opportunity to enter the morass of bureaucracy for which our federal government has become infamous. The "how" has to be defined on both the macro level, how DOD provides this mandated entitlement, and on the micro level, what the individual servicemember goes through to accomplish his or her move. Within the micro level, the concept of the "do it yourself" (DITY) move will also be discussed.

On the macro level, the personal property movement system is amazingly streamlined for a federal system. MTMC serves as the single contracting authority for personal property. Contracts are based on a tariff system. Rates, based on poundage, mileage, packing, labor, and storage are established by the contracting officer and proffered to contractors for solicitation. As in all facets of government contracting, preferential treatment is dictated for businesses that qualify for equal opportunity consideration. (DOD INST. 4500.34R)

In simplest terms, the macro view of household goods is contract administration. Specifically, the "contract" that is published by the government for personal property movements is the Domestic Personal Property Rate Solicitation D-2 (RSD-2). As mentioned earlier this document is really a schedule of tariffs, rather than a contract. It contains comprehensive data both in terms of general rates and situational moves. It covers mileage, packing/unpacking, labor, storage, and special conditions (mobile homes and boats). After reviewing the RSD-2, a private carrier must present the government with both a letter of intent and an application of tender to gain access

to the rotational list. These two submissions must include the carrier's balance sheet and income statement from the previous two taxable years. These financial statements help the government ascertain whether the carrier can meet the obligations incurred after being approved.

A successful bid to MTMC's solicitation places the contractor on a local area listing, which allows them to be used in actual movements. However, acceptance under these terms does not allow the contractor free and unfettered access to the system. A rotation system is used by the personal property offices to equitably distribute business among accepted carriers. Additionally, carriers must maintain a quality rating or they can be excluded from taking shipments. (MTMC, 1992)

As mentioned earlier, approval does not guarantee the private carrier continuing business with the government. The carrier must in fact satisfy a number of quality based requirements to remain on the carrier list. Quality is scored in household goods on a 100 point scale and will be discussed in greater detail later in this chapter. Even maintaining the minimum quality rating to stay on the list does not mean the carrier will receive a prorated share of movements. The practical policy is to rotate carrier selection based on quality performance and not to simply cycle through all the available carriers. (Woodard, 1994)

From the micro perspective, the individual servicemember faces three basic alternatives when planning a move. The simplest alternative is not to move, an option for married members electing an unaccompanied assignment; the family remains in place and the servicemember transfers alone. Secondly, the member can use the existing "cradle to grave" service provided by the government. Under this method, every aspect of the move is handled by the contractor, including completely packing and unpacking the goods. A third



possibility is the DITY move. The member executes the move independently. The member must receive prior approval and counseling from the transportation office before participating in this program. DITY moves involve a cash incentive. (DOD PA-13E/DA Pam 55-2, 1991) It is important to note that participation does not guarantee a cash award. Prudently managing the move is required to achieve the benefit.

Not surprisingly, most members choose to use the government contract as authorized in their orders. This provides the individual with the greatest flexibility and accomplishes their transfer most easily. Although this may be intuitively true when you consider the alternatives of moving yourself or leaving the family behind, it is not always apparent in executing the move. First, it is not simple to arrange for the move. The measure of simplicity is most quantifiable by comparing the time it takes to schedule a move in the private sector vice through the Personal Property Office.

The key element in accessing the household goods system is location. The reason that location is so important is that the military requires at least a personal interview with a counselor to set up the move. (If an individual cannot come to the transportation office, the move can be handled with an appropriate power of attorney, but the designated agent must participate in an interview.) (DOD PA-13E/DA Pam 55-2, 1991) Servicemembers operating in an area where their service does not maintain a personal property office can use the offices of other services. When in a remote location, the member is still required to attend an interview at the nearest personal property office. Some offices schedule interviews in conjunction with an orientation briefing. These briefs and the subsequent dash to be first in the interview line can

easily absorb a complete work day. Apart from this, DOD's system is essentially like a private move in terms of the actual mechanics of completing the move.

## **B. CLAIMS**

Claims for lost or damaged personal property are an unfortunate reality for every servicemember. This section will outline the responsibilities of all parties, state the requirements of claim submission and discuss the overall effect of claims on the personal property system.

A good move depends largely on the individual's involvement and preparation when the movers arrive. The servicemember is required to be present as goods are loaded and unloaded and to ensure that all items are annotated correctly on the inventory sheets. As items are removed from the residence, the carrier must ensure that all boxes are marked to show general contents. Additionally, all items require a serialized tag, tape, or written marking that is the same as the line entry on the inventory. If the shipment is to be put in storage prior to final delivery, the carrier is responsible for inventorying the shipment when it is unloaded from the truck and placed in storage. They must also reconcile the inventory when it is taken out of storage for final delivery.

At the time of delivery, the carrier is responsible for unpacking and unwrapping all cartons, boxes and crates to identify any loss or damage and report it on DD Form 1840. After delivery of the goods, the servicemember must note all losses and damages and complete the DD Form 1840 & 1840R.

Regardless of how well a carrier may pack and move household goods, there is a chance that something may be lost or damaged. If this happens, the servicemember has the right to file claims against both the carrier and the U.S. Government. In the case of damaged items, the carrier and/or

the government have the right to inspect them prior to settling the claims. Of course, a claimant cannot be paid twice for the same damages; usually the government will collect from the carrier and reimburse the claimant. As the government and carrier can be held liable for damages, claims must be submitted to them in writing. The carrier is required to settle a claim within 120 days after receiving the formal written claim (claim package filed by shipper). (MTMC RSD-2, 1990) The destination transportation office is the point of contact for these claims. (DOD 4500.34R)

For the most part, the government acts as a liaison between the servicemember and the carrier. The servicemember is responsible for filing a claim within 70 days of delivery. The government must file a claim against a carrier within 75 days of delivery. The government imposes the 70 day requirement to ensure that there is time to file against the carrier. If the claim is not reported within 75 days, the carrier is deemed not responsible for damage or loss and the government assumes the responsibility. The government must accept claims on a shipment made within two years of delivery. Such claims will be adjudicated by the proper authority. (NAVSUP INST. 490)

For most claims, the Military Traffic Management Office is the adjudicating authority. They will usually collect from the carrier and in turn compensate the claimant. In cases of extraordinary loss or damage or when any line item claim exceeds \$1,000, the Regional Office of the Judge Advocate General, Claims Department becomes the adjudicating authority. (DOD JAGMAN)

Claims are the most volatile portion of the personal property equation. In view of the carrier's limited liability, as defined in the RSD-2, and the intangible value of certain items, the process is fraught with "danger." Surprisingly, MTMC is not completely sure of the government's

cost of claims. Component service offices are supposed to report the level and costs of claims to MTMC Headquarters Falls Church, VA, but the central database is poorly maintained by the services and does not accurately picture the claims situation.(Bonvechio, 1994)

#### **C. TRANSPORTATION OPERATIONAL PERSONAL PROPERTY STANDARD SYSTEM**

The Transportation Operational Personal Property Standard System (TOPS) is an automated data processing and retrieval system. It was designed in the 1970's to "standardize operation procedures throughout the Department of Defense and to use automation associated with the preparation, control and distribution of documents and the maintenance of registers, rosters and files relating to personal property actions."(NAVSUPSYSCOM, 1983) While this sounds rather impressive, in essence it uses a computer to expedite the repetitive administrative tasks that occur in the average personal property office.

TOPS had its birth in a joint effort coordinated through the Office of the Secretary of Defense. This leadership tied together fundamental steps that were being carried on at the service level to improve the current manual system. While ostensibly TOPS was conceived as a "joint" or general system, it evolved to be "service unique."(NAVSUPSYSCOM, 1983) The service unique qualities primarily centered around the system's hardware. The Army and Navy used minicomputers while the Air Force and Marine Corps went with existing mainframe space for the new system.(NAVSUPSYSCOM, 1983)

While "the primary function of TOPS is to accomplish the various operations of the overall program including outbound and inbound shipments, non-temporary storage, quality assurance and contract services," it was also designed to produce limited management information as a by-product.

(NAVSUPSYSCOM, 1983) TOPS's real goal was to save time, reduce the mailing costs associated with a manual system, provide current data, standardize operation procedures and improve controls. (NAVSUPSYSCOM, 1983) Unfortunately, TOPS was not used to improve the personal property system, but rather merely to automate it. The same basic package still exists and functions today. Thus, DOD missed a golden opportunity to enhance operations and the system, which by today's standards is archaic, is still chugging along. (It is archaic in the sense that at the time it was developed "off the shelf computer equipment" was used to implement the project.) (NAVSUPSYSCOM, 1983)

#### **D. CONTRACTOR APPROVAL REQUIREMENTS**

MTMC is the first point of contact for the motor carrier, regulated freight forwarder, mobile home carrier, or boat carrier when soliciting approval to participate in DOD personal property programs. Headquarters, MTMC is responsible for managing, on a worldwide basis, the DOD personal property programs for the military services and the U.S. Coast Guard.

Transporting and storing household goods, unaccompanied baggage, mobile homes, and boats for DOD involves hundreds of millions of tax dollars annually and affects the morale and welfare of our servicemembers and their dependents. Due to these considerations, MTMC has established standards with which carriers must comply to pack, store, and transport DOD-sponsored personal property shipments. (NAVSUP INST. 490)

For domestic personal property shipments, a single Personal Property Government Bill of Lading is issued to a DOD approved commercial carrier. It covers transportation and related services, including: preparing of an inventory, packing and servicing appliances, pickup, line haul, delivery, and unpacking.

To receive DOD approval to participate in the domestic program, a carrier must provide the following documents: (MTMC PAM 55-4)

1. Tender of Service Signature Sheet (MT-PP Form 9).
2. Certificate of Independent Pricing.
3. Certificate of Cargo Liability Insurance (MT-HO Form 49-R).
4. Financial Statements.

Established carriers are required to submit a balance sheet and income statement. The income statement must have been audited and must cover the past two taxable years. New carriers that have no historical background must submit a balance sheet as of the date of organization. A projected balance sheet and statement of future finances will not be accepted.

The minimum financial standard for both established and new carriers is one dollar of liquid assets for each dollar of current liabilities as of the date of application. (MTMC PAM 55-4) Carriers must also provide copies of Operation Authority permits, both Interstate Commerce Commission (ICC) and/or state permits or certificates.

In addition to domestic moves, DOD has requirements for packing, containerization, and local moves. Direct Procurement Method (DPM) contracts are used to procure these services. (MTMC PAM 55-4) Contracts may be awarded to one or more contractors, depending on the needs of the Personal Property Satellite Office (PPSO). The contract is normally awarded each November for a one year period, or can be awarded on option-year provisions. A contract awarded by option-year provisions is awarded for a base year with contractual provisions for the awarded contractor to continue performing the contract for one or several more years. Exercising the

additional year(s) or options is at the government's discretion. DPM contracts are solicited and administered at the military installation level.(MTMC, 1992)

As this section has shown, the process to get on the contractor approval list is extensive and requires potential household goods carriers to be financially secure and capable of fulfilling long term contracts.

#### **E. CARRIER TOTAL QUALITY ASSURANCE PROGRAM**

In November, 1991, a Total Quality Assurance Program (TQAP) was developed to establish a single worldwide quality assurance program. TQAP replaced the Carrier Evaluation and Reporting System (CERS) for domestic shipments, and the International Carrier Evaluation and Reporting System (ICERS) for international shipments. TQAP standardized the quality assurance programs worldwide by adopting the best procedures from existing programs. It also implemented new policies. Combining the overall CERS and ICERS programs placed additional focus on carrier performance standards. The primary objective is to provide high quality moving service for DOD by using carriers meeting performance requirements at competitive rates.(MTMC-QQ (55), 1991) Quality service depends on timely, damage free moves. When TQAP standards are applied, the member will receive higher quality service.

This program consists of three major areas: 1) Quality Control and Carrier Performance File, 2) Carrier Assessment Program (CAP) and 3) Quality Assurance Procedures:

##### **1. Quality Control and Carrier Performance File**

The PPSOs maintain a carrier performance file for each carrier qualified to serve the installation. The carrier performance file contains or makes reference to the following: (MTMC-QQ (55), 1991)

1. The carrier's Letter Of Intent (LOI) with all enclosures and amendments.
2. Records of initial and subsequent inspections of the carrier's facilities and equipment (DD Form 1811 and 1812).
3. A copy of the PPSO's acceptance of the carrier's LOI.
4. Origin and destination records of inspections of shipments handled by the carrier.
5. Member reports on the carrier's performance.
6. Records of investigations of complaints made against the carrier.
7. Statements commending the carrier for superior performance.
8. Carrier's notifications of failure to meet pickup and required delivery dates.
9. Records of shipment reweighs.
10. Copies of warning and suspension notices sent to the carrier and the carrier's replies to such notices.
11. Copies of all other communications concerning the carrier's performance.

The carrier performance file contains only the current year's records. Documents over one year old are removed from the carrier performance file and discarded according to military service record disposition regulations. (MTMC-QQ (55), 1991) However, the DD Form 1811, the carrier's LOI with PPSO acceptance, and the last semiannual average shipment score are retained as long as the carrier is qualified and continues to participate in the DOD personal property program.

## **2. Carrier Assessment Program (CAP)**

The Carrier Assessment Program establishes standards for PPSO to evaluate the carrier's performance. It also provides the PPSO with a management tool to reward carriers which have



proven their ability to meet those standards through continued participation in traffic distribution.

Under CAP, the origin PPSO evaluates carrier performance on each shipment. Additionally, every six months the origin PPSO will review all shipments contained in the carrier's performance file. A carrier will be evaluated at the end of each performance period, regardless of their current status. (MTMC RSD-2, 1990)

Performance standards have been established for on-time pickup, on-time delivery, and the absence of loss/damage. Carriers that fail to meet the minimum acceptable performance standards of 90 or above will be considered unsatisfactory and placed in traffic denial. Those meeting or exceeding the minimum will be considered satisfactory and will share equitably in the distribution of traffic, based on their rate level and performance score. (MTMC RSD-2, 1990)

Carrier performance evaluation is accomplished through two separate processes: Scored Elements and Nonscored Elements.

Scored Elements consist of the following three factors: pickup, delivery, and loss/damage. Because these are considered the most important factors in a move, they are the basis for determining if a carrier is satisfactory at the end of the performance period. These three factors are discussed in detail in the following sections.

***a. On-time Pickup***

The PPSO adds 20 points to the carrier's shipment score for meeting the established pickup date. It is relatively easy for the carrier to earn these 20 points.

***b. On-time Delivery***

The PPSO awards the carrier 40 points for a shipment which meets the required delivery date (RDD). For each day the shipment is late, 4 points are deducted up to a maximum of

40 points. The carrier receives no points for a shipment 10 or more days late.

*c. Estimating Loss/Damage*

The completed DD Form 1840 and DD Form 1840R are the primary source document PPSO uses to estimate the dollar value of losses and/or damage sustained during the move. There are various levels of property damage and several sets of circumstances that could cause damage to a shipment. When all conditions are normal, meaning no unusual occurrences, the shipment is scored based on a 40 point scale. If no damage/loss is found, the carrier receives the entire 40 points. However, if damage/loss is present, the carrier loses 2 points for damage/loss of \$1-\$500, and 6 points for each \$100 increment of loss/damage from \$501-\$901. A total of 40 points will be deducted if the damage/loss of a shipment exceeds \$900. (MTMC-QQ (55), 1991) Carriers provide a copy of the DD Form 1840 to the destination PPSO within 30 calendars days of shipment delivery.

Nonscored elements are all other tender of service violations. They are evaluated separately by the PPSO. All shipments are be evaluated using a combination of on-site inspections, the DD Forms 1840 and 1840R, and/or administrative documents available to the PPSO. (DOD INST. 4500-34.R)

Carrier performance evaluation begins when the origin PPSO offers a shipment to the carrier's local agent. Acceptance of the offer binds the carrier to performing in accordance with the general terms established by DOD and the carrier in the tender of service and the specific terms contained in the rate solicitation. (MTMC RSD-2, 1990)

The origin PPSO initiates a DD Form 1780, Shipment Inspection and Evaluation Record, to evaluate and record the carrier's performance on each shipment offered. The entire performance evaluation process begins with this document. For

the origin PPSO to fully evaluate a shipment, there must be feedback from the destination PPSO. The destination PPSO uses DD Form 1780 and DD Form 1840 to evaluate the carrier and then sends the evaluation to the origin PPSO. The origin PPSO maintains a suspense file on all shipments. The origin PPSO cannot close out its files until the destination PPSO provides its feedback. After the feedback is received, the origin PPSO scores the carrier and sends them a copy of DD Form 1780. This must be completed within 120 days after delivering shipment. Normally, the destination PPSO completes and forwards all scoring documents to the origin PPSO within 45 to 70 days following delivery. All documentation should be sent no later than 90 days after delivery.

### **3. Quality Assurance Procedures**

The tender of service specifies requirements of service that the carrier agrees to fulfill in moving DOD-sponsored shipments. The carriers' and agents' performance is closely monitored by the PPSO and MTMC. When a carrier or agent violates any provision of the tender of service, applicable rate tariffs or tenders, or commits unethical or unlawful acts, the PPSO warns or suspends the carrier, or recommends the carrier's disqualification to the MTMC area command. In determining which action to take, the PPSO considers the severity of the violation, impact on the servicemember, the general quality of the carrier's past performance and actions the carrier may have taken to correct the deficiencies. (MTMC-QQ (55), 1991)

A carrier may be placed in a nonuse status by Headquarters, MTMC, or by a PPSO. HQMTMC may direct the nonuse of a carrier for a definite or indefinite period of time. Nonuse of a carrier may be directed by HQMTMC as a result of the following:

1. Financial Instability.
2. Failure to provide proof of cargo insurance.
3. Failure to provide a properly executed certificate of agency agreement (overseas PPSOs only).

When a nonuse action is taken, HQMTMC notifies the carrier's home office to explain the reasons for such action, its duration, and the type of traffic to which it applies. No further traffic shall be offered to the carrier until HQMTMC lifts the nonuse. Nonuse of a carrier may be initiated by the PPSO as a result of the following:

1. Disqualification of an agent's facilities, personnel or equipment.
2. An agent being placed in an ineligible status.
3. Suspension due to unsatisfactory performance of agents.
4. Agent bankruptcy, lack of containers, or other similar failure to continue to provide service.
5. PPSO being directed by HQMTMC.

Upon satisfactorily resolving the deficiency, the nonuse status is lifted and traffic is distributed to the carrier in accordance with regulation. (MTMC RSD-2, 1990)

#### **F. RATE BIDDING PROCEDURES**

As stated earlier, contracts are based on a tariff system where rates are established by the contracting officer and proffered to contractors for solicitation. Shipments are distributed exclusively to the lowest rate carriers unless the volume of traffic exceeds their capability. (MTPP-QQ (55), 1991) When this occurs, the remaining traffic is offered to carriers on the succeeding rate levels. However, shipments are always offered first to carriers in lower rate levels

before considering higher rate carriers.(MTMC-QQ (55), 1991)  
It is necessary to apply sound traffic management judgement to tender shipments uniformly by spreading traffic over the distribution period, while not over-loading any one carrier. This is done on a rotation system.

The "suggested" government rates are documented in the RSD-2. This is available to all commercial carriers. Using this document as a basis for quoting government rates, carriers consistently under bid the tariff and offered to make shipments at anywhere from 35 to 65 percent of the tariff rate.(Woodard, 1994)

#### **G. CONCLUSION**

This Chapter has summarized the current DOD Household Goods/Personal Property Program. Chapter III will present and analyze the our data and statistics.

### **III. DATA PRESENTATION**

#### **A. INTRODUCTION**

This chapter will reacquaint the reader with the goal of this thesis, the evolution of the goal, the methodology employed and the study's findings. The underlying premise of this thesis as it was originally formulated, has survived intact. However, the nature of the conclusions and solutions to the problem have undergone a massive evolutionary progression which is as important as the findings of fact themselves.

#### **B. RESTATEMENT OF PURPOSE**

As stated in Chapter I, this investigation intended to improve a government system that impacts the lives of all DOD members. As a candidate, President Clinton put it best, "It is time to radically change the way government operates---to shift from top-down bureaucracy to entrepreneurial government that empowers citizens and communities to change our country from the bottom up." (Shoop, 1993) While certainly couched in the language of our times, this statement captures in essence the vitality of Locke's commonwealth alluded to in Chapter I. Put another way, "It is time to stop paving the cow paths. Instead of embedding outdated processes in silicon and software, we should obliterate them and start over." (Hammer, 1990) This reforming zeal is exactly what brought the Household Goods System into focus. It became apparent that we too were interested in "paving cow paths" as our study deepened.

Initially, it seemed that potential improvement lay in reducing the layers of bureaucracy and red tape in the Household Goods System. Throughout the initial interviews and research, the numbers concerning offices, personnel and annual moves were astounding. (Original figures held that over

500,000 moves were being executed annually by over 500 offices in the Continental United States. These later proved to grossly exaggerate reality. Yet, it provided an initial insight into the disparity of available data.) At this point, an idea for improving this system grew into a concrete goal: achieve savings in the system by decentralizing. Specifically, the savings could be attained by delegating the contracting function to the service member, reducing the need for civil servants to administer the system. The classic "cut overhead" approach seemed safe and ripe. To evaluate this approach, the analysis set out to verify that rates obtained by an individual were at least competitive with the government tariff.

### **C. FIELD STUDY**

While in theory it seemed perfectly reasonable to investigate the possibility of an individual obtaining rates, the mechanics of this phase of our investigation seemed daunting to say the least. The key to our success, as we saw it, would be our ability to convince a carrier that we were credible customers. In order to achieve this level of credulity, no detail could be left out when we began our investigation. This point, however, brings up the opportunity to discuss the methodology we employed throughout this investigation.

From the outset, the central theme of this thesis was to improve the way the DOD moves Household Goods. Unfortunately, the hard truth is that reinventing government is hampered by self-protective tendencies. It is perfectly acceptable to increase efficiency and cut jobs or costs in someone else's department; it is quite another matter to have the same done in your area. We decided not to reveal the total goal of the project. We were concerned that individuals working within

the system would be wary of any outside interest. This proved to an accurate forecast.

Generally, the individuals we contacted within MTMC and the Household Goods Carrier Bureau were hesitant to divulge any information. In order to get the information required, we finally adopted the "do not lie but do not tell the whole truth approach." Depending on the agency being contacted, we only revealed the most innocuous information concerning this thesis: "I am conducting research concerning the method by which the government obtains moving services for its military personnel." This certainly allowed for a better flow of information earlier attempts.

Contacting individual carriers to obtain rates proved to be less problematic than originally anticipated, largely because of our considerable preparation. In conceptualizing our experiment, our control set would be the government tariff rate and the service member's specified entitlements. Under the current system, a service member is entitled to full packing/unpacking, 180 days of storage and a line haul or short haul transit. Thus, the move proposed to carriers contained the same benefits.

The "mythical move" had a good deal of "flesh" on its bones before contacting any carriers. The move was based on 5000 pounds (JFTR entitlement for an E-3) traveling 2700 miles or 140 miles. The two different distances meet the DOD criteria for line hauls (greater than 500 miles) and short hauls (under 500 miles). The mythical moves were from Monterey, CA to Jacksonville, Florida and Stockton, California. Having set the conditions, we selected carriers. Three criteria were used in choosing the carriers: currently engaged by the government, a nationwide network and a reputation for quality service. The four carriers selected were Allied, Mayflower, North American and United. (Table 1)



# HOUSEHOLD GOODS LINEHAUL MOVEMENT COST ANALYSIS

DISTANCE TRAVELED: 2700 MILES

WEIGHT MOVED: 5000 LBS

	<u>CARRIER A</u> <u>RATE</u>	<u>CARRIER B</u> <u>RATE</u>	<u>CARRIER C</u> <u>RATE</u>	<u>CARRIER D</u> <u>RATE</u>	<u>GOVERNMENT</u> <u>TARIFF</u>
Wt (cwt)	50	50	50	50	50
\$/cwt	59.5	80	64	74.75	63.45
Storage	300	300	300	300	675
Packing	20	15	25	12	13.35
Total	4275	5050	4750	4637.50	4615

## DURING NON-PEAK SEASON

\$/cwt	53.55	72	57.60	67.28	63.45
Total	3977.50	4650	4430	4264	4615

## SHORT HAUL ANALYSIS

DISTANCE: 500 MILES

WEIGHT: 5000 LBS

	<u>MAJOR</u>	<u>MAJOR DISC</u>	<u>LOCAL</u>	<u>GOVERNMENT</u>
Total	2283	1483	1000	1617.50

Table 1. Field Experiment Data

For comparison, we calculated the government tariff value for the moves proposed. The government tariff cost was calculated by applying the \$/cwt and packing lines of Table 1 to the specified weight of 50 cwt (weight in hundreds = 5000). These figures were added to the storage cost for a six month period. The rates used were drawn as stated from the RSD-2, specifically Sections 3 (line haul rates), 2-1 (accessorial rates) and 5 (short hauls).

Contractor rates were obtained through telephone interviews using the scenarios described. The responses were all rough estimates that could be refined by an in house visit at our convenience. Storage fees were consistent throughout the solicitation. This figure was based on 700 cubic feet as suggested by the contractors for the weight of 5000 lbs. (This assumes that the average 100 lbs of household goods occupies 14 cubic feet.) Seven hundred cubic feet of storage space rents for about \$50 per month times the six month maximum as shown in Table 1. Packing/unpacking rates were based on an average for each carrier. The carriers were reluctant to quote a specific rate for packing without seeing the material to be packed. Without exception, they stated that the nature of the goods would determine the rate. Packing is principally direct labor and materials. To illustrate, 5000 lbs of pianos would be much cheaper to pack and unpack than 5000 lbs of china.

Viewing the results contained in Table 1, our enthusiasm dimmed. Only one of the major carriers beat the government tariff rate for the line haul movement. Yet, further consideration highlighted one major point brought up by each of the carriers: seasonality. Each of the carriers offered discounts for delaying the actual move to the off peak season. The peak season is from May through September. (HGCB, Series) The discounts proffered were from ten to 35 percent. The conservative ten percent figure is reflected in Figure 1

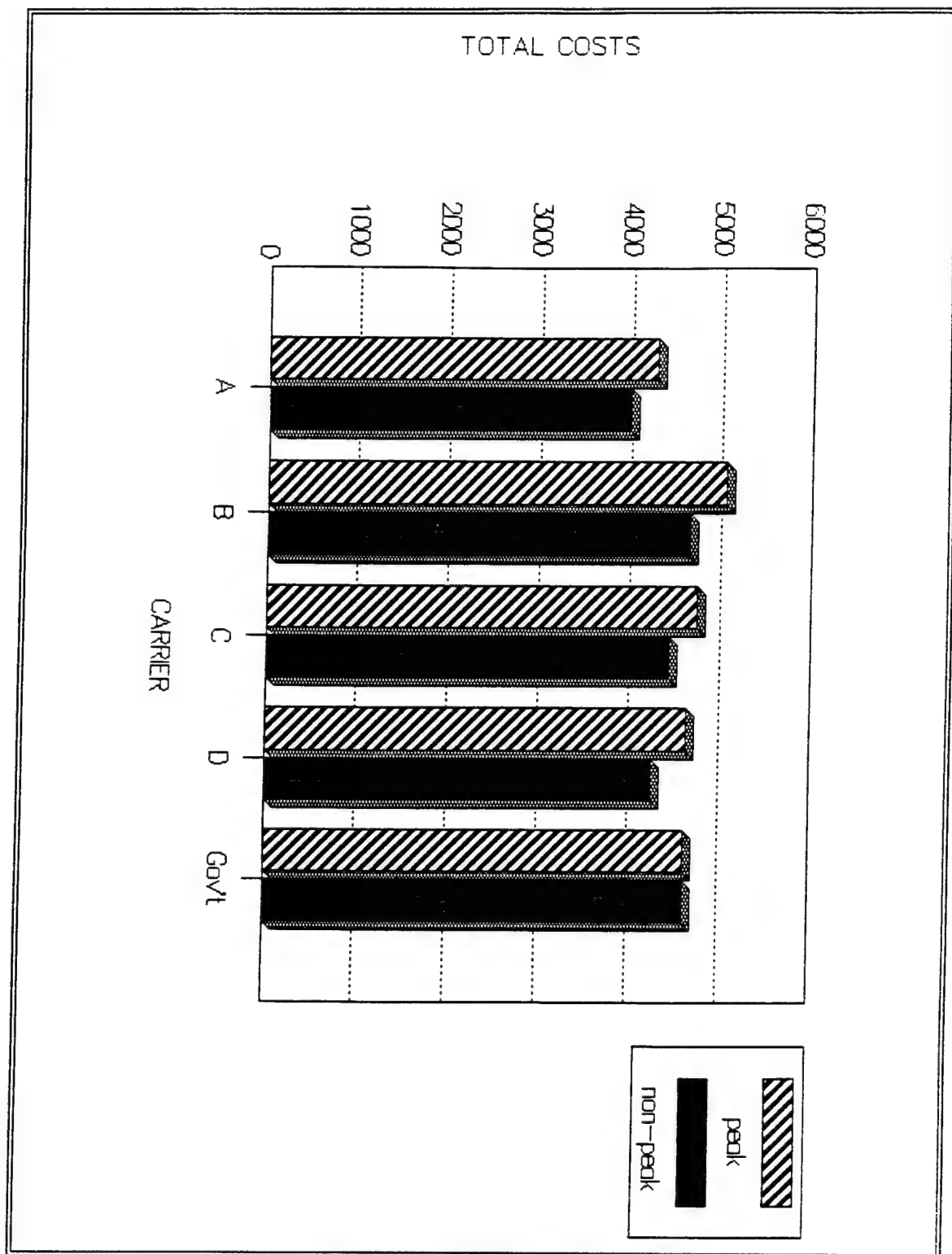


Figure 1. Linehaul Analysis

and Table 1. Three out of four carriers now beat the tariff.

The short haul movement provided more invaluable information. The short haul solicitation was provided by one major carrier and was considerably higher than the tariff rate. However, in the next breath, the carrier offered a 35 percent discount due to the mileage involved. The customer service representative also recommended using the company's local affiliate vice the national franchise. When queried about quality of service with the local carrier, the representative stated that the local operator employed the same personnel and equipment. Using the local company was far and away the most cost effective, as illustrated in Figure 2.

The field experiment reinforced that using the service member as the contracting agent was a reasonable option. To motivate the service member, individuals could receive a specified monetary allowance and then contract for their own move. The data collected suggest an average savings of \$182.50 per move. However, to err on the conservative side, this analysis assumes a \$100 cost savings per move.

The nature of the moving industry is somewhat troubling. Movers were quick to offer discounts. An incentive mechanism would be required to motivate the member to seek a good value and to encourage the carrier to reveal its lowest cost. Also, the issue of seasonality is potentially important. If DOD shifted all its moves into the off peak season, would it affect the nature of the peak/off peak duality? Similarly, would cost shifting occur if DOD fundamentally changed its method of handling HHG moves? How would this shifting affect the rest of the market? Finally, and most troubling, why couldn't DOD use its massive bargaining power to obtain better rates than available to a private citizen? The need for more

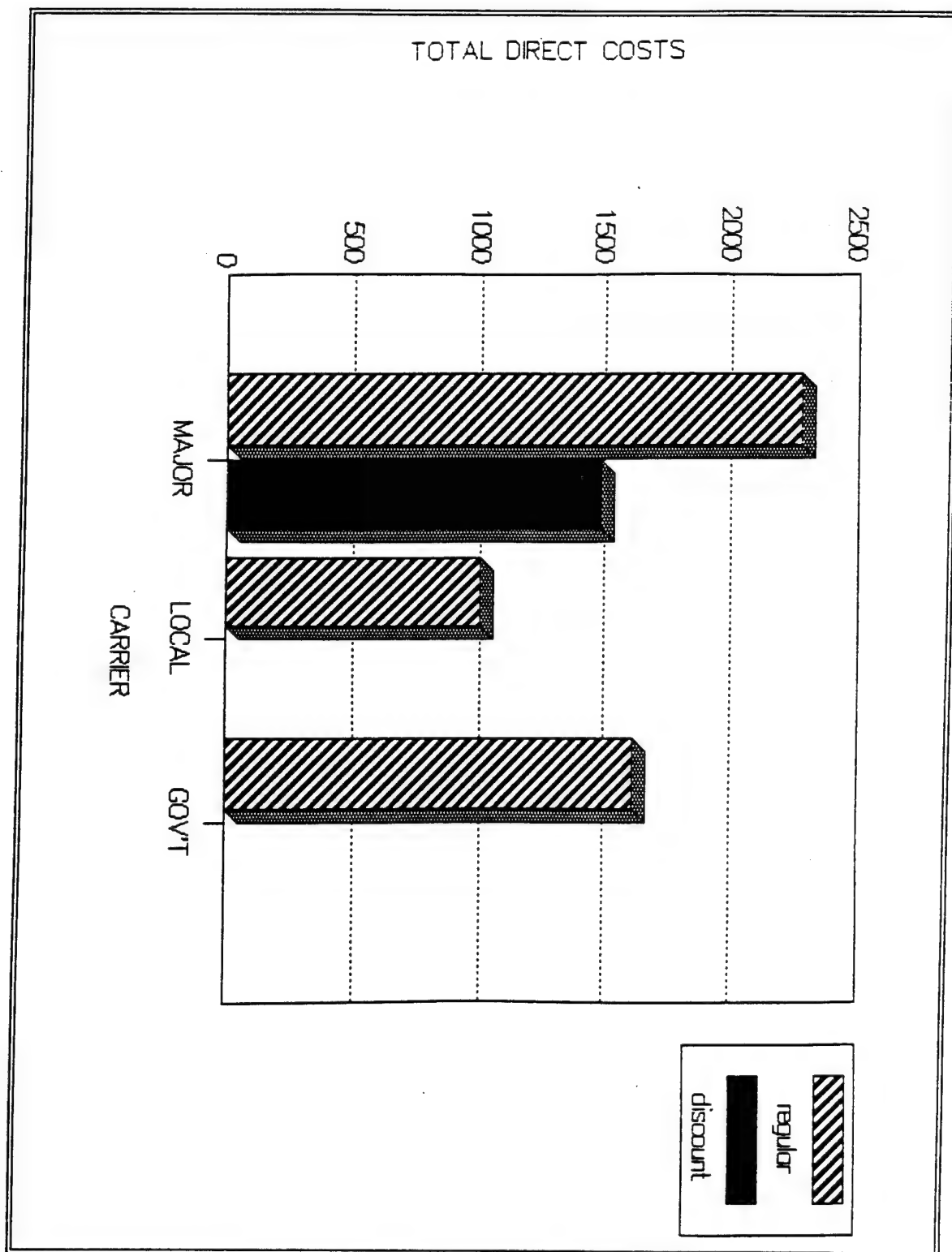


Figure 2. Shorthaul Analysis

information regarding this marketplace was plain. Analyzing the relationship between movers and Corporate America would help provide it.

#### **D. CORPORATE AMERICA**

Corporate America often moves its employees at company expense, as the need to retain highly skilled workers and compensate them for the inconveniences of moving outweighs the direct costs of relocation and the opportunity costs of recruiting and training new employees in the destination location. Two major corporations that frequently transfer employees were contacted. They were Martin Marietta Energy Systems, Inc. and IBM.

Martin Marietta Energy System, Inc., a subsidiary of Martin Marietta Corporation, uses a system very similar to the Department of Defense's. Entitlements and procedures are delineated in their instruction, "Martin Marietta Energy Systems Standard ST-101." The company staffs Transportation Offices which perform the same function as MTMC and its subordinate component personal property offices. The Transportation Office solicits bids from moving companies, and the selected carriers pack, transport, and unpack household goods for Martin Marietta Energy Systems employees. Weight allowances are based upon paygrade, but exceptions for excess weight are routinely granted without requiring reimbursement from the employee. Additional benefits include a cash Transfer Relocation Allowance of \$1000 for incidentals such as utilities connection, auto registration, and boarding pets. Movement of personal automobiles is reimbursed at 27 cents per mile, with senior level employees reimbursed for moving two cars. Employees are authorized 30 days of temporary lodging at the new location at the company's expense. They can also receive a meal per diem of \$25 each for the employee and spouse, and \$15 for each additional dependent. Martin

Marietta Energy Systems will also buy an employee's unsold house at the previous location and provide financial assistance at the new location if housing costs are higher. (Martin Marietta, 1992)

Clearly, these policies are similar but more generous than DOD practices. It is interesting to note that Martin Marietta Energy Systems is a Department of Energy contractor and executes personnel transfers on a government cost-reimbursable basis. The company performs highly specialized nuclear work where the benefits of retaining skilled employees are apparently higher than the costs of relocation.

IBM provides a very different model for transferring personnel from one location to another. Formerly, IBM used a system similar to DOD and Martin Marietta Energy Systems. They have recently switched to what they consider a more cost effective approach. This is part of their highly publicized corporate restructuring to make *Big Blue* a leaner and meaner competitor in the marketplace. Rather than administering an in-house contracting office, IBM refers employees to a transportation broker, either Coldwell Banker or Prudential. The brokers act as the liaison with the moving companies. IBM saves the overhead and personnel costs of staffing their own relocation office while providing their employees with expert liaison service. (Guzman, 1994)

Having viewed two very different corporate examples, we turned to the basic question of what path to follow: centralization or privatization? This step of our investigation indicated that privatizing might offer more promise than changing the existing system.

#### **E. DATA PROBLEMS**

Our review of two major corporations did encourage us. First, IBM had identified possible savings through reducing overhead and system privatization. Second, carriers offered

no appreciable volume discount to individual corporations. (HGCB, Series) This latter point was heartening since it put all parties examined (individuals, corporations and the government) in the same "boat." The problem that began to impede our project with a vengeance was the lack of information concerning the household goods moving system and carrier industry.

In order to facilitate collecting the meager available data, we settled on a two prong approach: seek both government and industry sources. We felt that this method would maximize our yield and provide a valuable cross check of the material obtained. The Household Goods Carriers' Bureau seemed to be an invaluable source of statistical data but they seemed unwilling to share their resources beyond some anecdotal figures. On the government side, MTMC proved slow in responding to a request for routine data concerning actual CONUS moves and associated costs. Ultimately, MTMC was unable to provide us with figures regarding personnel, claims or facilities costs. These are maintained at the service level. The Dudley Knox Library had only two titles concerning household goods. One was Congressional sub-committee testimony and the other was a gem put out by the HGCB.

This volume was entitled the Transportation Fact Book. It provided a two year comparison in which the moving industry was analyzed across a comprehensive spectrum of freight types. The Fact Book provided move, revenue and regional data that was invaluable and provided a check on the data provided by MTMC. HGCB uses industry surveys to gather their data. Data verification was preformed for statistical relevance by the University of Kansas. The only problem with this discovery was the lack of current volumes available in the library. This hurdle was cleared by a trip to the transportation library at the University of California at



Berkeley and the help of Knox Library's interlibrary loan librarian who ordered the most recent three volumes from the HGCB.

Another "motherlode" of information was discovered in the third floor corridor of Ingersol Hall. Pamphlets were placed on a table outside the Acquisition Library concerning the Defense Logistics Studies Information Exchange (DLSIE). Chartered in 1962 under Department of the Army auspices, DLSIE is required to "collect, organize, store and disseminate information relating to logistics studies, models, management information and related documentation." (DOD, 1992) This repository has over 92,000 works which can be obtained in microfiche format. We placed a rather large order that was filled in about a week. Following conversion to a paper format, the process of assimilating this wealth of material began.

#### **F. BIDDING**

While we had spent a considerable amount of time pouring over the official publications concerning household goods, the welter of papers we produced from our microfiche began to add a richness to our understanding that had been lacking. Although many of the studies proved to be of little value, there were several General Accounting Office (GAO) reports that essentially changed our process while preserving our initial intent.

Paramount in importance, the idea of reforming the system had gone through several iterations as indicated. Despite the varied approaches, it was clear that evidence existed to justify the change. However, the marketplace involved was more complicated than we initially anticipated. As such, it made a definitive "provable" alternative to the current process unattainable with the evidence available. In nautical terms, we had hit the "rocks" and seemed "hard aground."

Faced with what seemed an insurmountable task to reinvent our study, we began to feverishly review all our research to pick up the thread of our argument. It was found in the GAO reports mentioned previously. The one that served as our life saver was titled "Competition Among Commercial Movers Serving DOD Can Be Improved." As this had been our theme all along, we had only casually perused this document previously.

Although we were familiar with the rate structure as it was defined in the RSD-2, we found that our knowledge was far from complete on the subject. Through research and interviews we were aware that carriers often underbid the tariff to gain a more favorable place on the approved carriers list. (Woodard, 1994) We were definitely not aware of the procedures used by the government that cause this phenomenon. Although bidding rounds are cited in the RSD-2, the dramatic effect that they have was not apparent until reviewing the GAO report.

Bidding to gain access to the DOD carriers list is accomplished in two phases. Each phase is bid as a percentage of the tariff baseline rate. It is only after the second phase that the bids become rates which MTMC publishes to the individual PPSOs. Essentially, the first phase of bidding sets the low level for all the carriers. This level is then published by MTMC to all carriers, without preferential consideration for the initial low bidder. After publishing the low bid, MTMC accepts a second or "me-too" round of bids. (GAO, 1990)

Another curious aspect of the bidding process is the vast number of responses received to the solicitation, over 525,000. It seems that this industry would not support that many carriers. In fact, it does not. Many carriers create "paper companies." These entities are merely created to bid and gain a higher percentage of the traffic allocation while the parent company conducts the move. (GAO, 1990) These factors began to move our thoughts away from reinventing the

centralized system and toward privatization. We had originally postulated that savings would come from reducing overhead. It appeared the government was dealing in an arena that was difficult and possibly inefficient. The theme of privatizing the system, as with IBM, began to dominate our thoughts. However, such a departure from the current centralized system required evidence to suggest that our system needed some repair.

#### **G. TABLE PRESENTATION**

In order to establish the basis for our contention concerning privatization, we compiled the data presented in Table 2. The sources of the data displayed are HGCB's Transportation Fact Book, The Economic Report of the President, and MTMC. Table 2 was devised to look strictly at the moving costs associated with the household goods system. The reason for this approach was twofold. One, the majority of the archival data maintained by MTMC was pre-Defense Business Operating Fund (DBOF) and as such did not contain indirect cost elements. Two, the data concerning overhead, personnel cost and facilities are not centrally maintained, as mentioned above. Additionally, the component services have accounted for such elements in different manners prior to DBOF. All cost and revenue elements were deflated using the Gross Domestic Product deflator to base year 1987. This deflation removes the effect of inflation from the figures. Inflation may mask their actual interplay. The move and personnel columns are presented to show the interaction of DOD and the industry and in the case of personnel to indicate the future nature of DOD's place in the market.

Table 3 is an example of the rates solicited by MTMC in 1988. (GAO, 1990) It displays the two phases of the bidding process and the movement of the carriers' rates between percentages of the baseline tariff rate.

YEAR	DOD MOVES	DOD COST	MIL POP	GDP DEFL
1985	117500	175130200	1706000	1.06
1986	111830	156850710	1706000	1.04
1987	123860	181945270	1737000	1
1988	131460	181620400	1709000	0.962
1989	229963	330610353	1688000	0.926
1990	168255	245259007	1675000	0.883
1991	194188	306530879	1564000	0.85
1992	221788	374223332	1566000	0.826
1993	245246	451652154	1485000	0.805
1994	157527	284988011		
YEAR	IND MOVES	IND REVENUE	REAL COST	REAL REV
1985	1273285	1899341230	185638012	2013301704
1986	1271335	1908778055	163124738	1985129177
1987	1323515	2037094910	181945270	2037094910
1988	1396065	2166511625	174718825	2084184183
1989	1311850	2735999885	306145187	2533535894
1990	1282350	2742044180	216563703	2421225011
1991	660745	2096687155	260551247	1782184082
1992	676150	2221405080	309108472	1834880596
1993	1375000		363579984	
1994				

Table 2. 1985-94 Industry and Government Data

% of Tariff	Initial Bid (% of Bids)	"Me Too Bid" (% of Bids)	Cum Dist (1st Bid)	Cum Dist (2nd Bid)
40-49	0	0	0	0
50-59	.09	1.74	.09	1.74
60-64	.06	2.60	.15	4.34
65	.12	4.03	.27	8.37
66-69	.01	.20	.28	8.57
70-74	.02	.69	.30	9.26
75	.42	25.72	.72	34.98
76-79	.01	.24	.73	35.22
80-89	.10	1.62	.83	36.84
90-99	.05	2.40	.88	39.24
100	39.10	57.65	39.98	96.89
101-109	5.26	.36	45.24	97.25
110-119	5.18	.45	50.42	97.70
120	16.50	.88	66.92	98.58
121-129	9.00	.91	75.92	99.49
130-139	12.13	.36	88.05	99.85
140-149	1.68	.03	89.73	99.88
150-159	6.07	.07	95.79	99.95
160-169	1.14	0	96.93	99.95
170-179	0	0	96.93	99.95
180-189	0	0	96.93	99.95
190-199	0	0	96.93	99.95
200	3.06	.05	100	100

Table 3. 1988 Carrier Bid Submissions

Tables 2 and 3 will be used to illustrate the market interaction and the effect of the two bid process in Chapter IV. While these figures will provide the opportunity to make quantitative observations, we felt that the qualitative side of the equation was lacking.

#### H. DATA COMPARISON

The data used throughout the following sections is based on Table 2. All the data used was broken down to exclude all indirect costs and any direct costs not associated with the physical movement of personal effects (i.e. personnel, equipment and facilities).

### **1. DOD Shipments versus Military Population**

First the data was reviewed to see if DOD demand was predictable. To do this, the number of DOD moves was compared to the number of active duty military from 1985 to 1993. (Table 2) The number of moves made by DOD was roughly proportionate to the number of active duty military. (Economic Report of the President, 1994) In 1989, there was a slight increase in the number of DOD moves while the number of active duty military was declining. This was the beginning of the drawdown. Active duty members were taking advantage of the exit bonuses and incentives. The government had to transport their personal effects to their home of record, thus increasing the number of moves made that year. In 1990, the drawdown effect on moves appears to subside some, after the initial surge. It then picks up from 1990 to 1993. The number of moves increased as the number of active duty decreased. By the end of 1993, the number of moves made by DOD drops as the drawdown levels off.

### **2. DOD and the Industry**

From 1985 to 1988, DOD's share of the industry was approximately nine percent. In 1989, this percentage rose to almost 18%, then dropped to 13% in 1990. From 1991 to 1993 there was a steady increase in the number of DOD moves within the household goods industry. In 1991 and 1992, DOD comprised approximately 30% of the industry. This increased percentage did not result from a substantial increase in the number of DOD moves, but rather to a severe decrease in the number of non-DOD moves. During 1991 and 1992 the industry suffered a tremendous decline. This slump did not last long. In 1993, industry levels again rose to the 1988 level.

When we contrasted the overall industry revenue for the transportation of personal effects to the comparable total government costs we found some very unusual relationships. In 1989 and 1990, the industry had a huge increase in their

revenues. Although the cost to DOD rose slightly, it was not disproportionate to the number of moves made by DOD that year. As we stated earlier, DOD moves increased in 1989 due to the beginning of the drawdown, so it was not unexpected to see this increase of costs. The industry experienced a decline in revenue during in 1991. However, the drop in revenue was not below the level of 1988, the year prior to the two years of industry growth. The significant factor here was the colossal decrease in the number of moves within the industry. (This information is based on published statistics and we have no reason to believe the data is invalid, although it seems inconsistent with trend in the overall economy during this time period.)

While this data will provide the opportunity to make quantitative observations, we felt that the qualitative side of the equation was lacking. We developed a poll and administered it to 50 first and final quarter students to draw some conclusions concerning customer satisfaction.

## **I. CUSTOMER SATISFACTION**

To supplement the quantitative data, the system was reviewed from the user's viewpoint. To do this, a poll was used.

### **1. Poll Development**

The poll was designed as simply as possible, and with a very clear objective: participants had to make a decision as to what level of service they were willing to accept. (Exhibit 1) This poll was given to 50 Officers from all four services. Seventy percent of those polled had just executed a move and the remaining 30 percent were Officers that were in the process of arranging for a household goods shipment.

THESIS POLL

18 Jan 1995

SERVICE \_\_\_\_\_

RANK \_\_\_\_\_

Our thesis is examining possible reforms to the current Personal Property/Household Goods Program within CONUS. Please circle the most appropriate response among the given scenarios. Understanding that if the criteria for each statement cannot be attained you would be required to use the existing system.

1. I would leave the current system intact.
2. I would choose to arrange for my move with the carrier of my choice directly (ie. without the household goods office liaison) given a pre-specified allowance which would cover all my moving expenses.
3. I would choose to arrange for my move with the carrier of my choice directly (ie. without the household goods office liaison) given a pre-specified allowance even if the only carrier I could find exceeded my allowance by \$100 and I would be required to pay that amount out of pocket.
4. I would choose to arrange for my move with the carrier of my choice directly (ie. without the household goods office liaison) given a pre-specified allowance only if I could find a carrier that could provide the service at a level \$50 below my allowance and I would be given that \$50.
5. I would choose to arrange for my move with the carrier of my choice directly (ie. without the household goods office liaison) given a pre-specified allowance only if I could find a carrier that could provide the service at a level \$200 below my allowance and I would be given that \$200.

Thank you for your assistance!

Exhibit 1. Poll



## **2. Poll Options**

There were five options give in the poll. They were based on five different levels of satisfaction. The first level stated that customers were satisfied with the current system. The second level indicated that customers would choose to make their own arrangements as long as they broke even. The third option was a little more extreme. It stated that the service member would arrange their own move and pay up to \$100 of their own money to do so. The fourth and fifth options were incentive levels of \$50 and \$200 respectively. The service member could arrange their own move if and only if they could achieve the desired level of cost savings and if they could do so, they would personally receive that savings.

## **3. Poll Results**

After the responses were tabulated we found that 70% of those polled were dissatisfied with the current system. (Figure 3) Of those, 16% chose option three: paying up to \$100 to make the arrangements themselves. This told us a great deal. Not only were the customers dissatisfied, they were dissatisfied to a point that they were willing to incur costs to avoid the current system.

It is accurate to say that the majority of people, both military and civilian, are dissatisfied with their move in one form or another. Most of the problems would generally lie with the quality of the moves, which would be affected by the attitudes and work of the actual movers, and proportionate to goods lost or damaged. However, our poll indicates dissatisfaction with the current government process and not with the physical move itself. This gives us another reason to suggest reforming the system.

One of the reoccurring concerns that was raised by several of the people polled was that changing the current

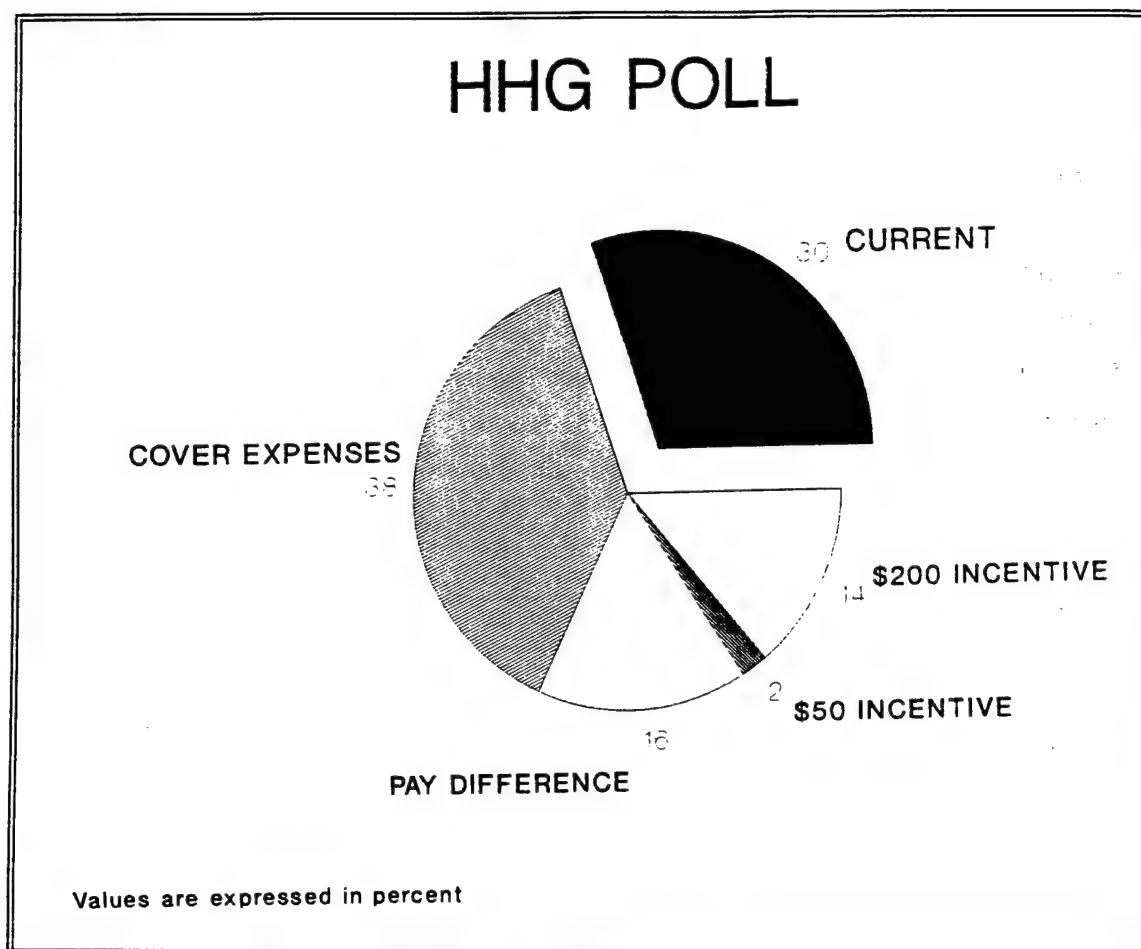


Figure 3. Poll Results

system would negatively affect the way that a claim was filed and adjudicated. The next section will address the claims issue in greater detail.

## J. CLAIMS RECOVERY

Due to the concerns raised, we did further research into the government's claims recovery from the carriers.

As far as reimbursement to the service members, the claims system seems adequate. The service member files a claim with their local HHG office and it is sent out to be processed by MTMC. Service members rarely have trouble recovering losses. The trouble comes from the government

recovering this money from the carriers. It is not that the carriers are unwilling to pay for damages incurred as a result of their work, they carry liability for such occurrences. Problems come from the length of time it takes the government to submit a claim to the carrier.

In 1989, the Government Accounting Office (GAO) looked into the claims procedures to ascertain if all the services were following the same procedures and if payments to military members for household goods claims were grossly overgenerous. The study found that Military procedures were reasonably consistent among the different services. It also found that military household goods claims payments were higher on average than for commercial shipments. But, this does not necessarily mean that the military payments were overly generous. More military shipments go into temporary storage than do commercial shipments. Temporary storage means the goods are handled more frequently, increasing the potential for damage.

There were some indications of potential problems with service efforts to recover the carrier's share of the liability for losses and damages to household goods shipments. Claims recovery apparently has a lower priority than claims payment to service members. DOD needs to emphasize recovery from carriers to fully realize the benefits of the recently increased liability on military shipments. Whereas DOD was recovering only about 21 percent of what it paid out to service members prior to 1987, the amount now potentially recoverable from carriers has increased to about 78 percent. (GAO, 1989)

Two additional factors directly affect the resolution of household goods claims. Under the provisions of 31 U.S.C. 3721, federal employees have two years to file claims for loss and damage to all types of personal property, including household goods. The two year statutory period for filing

household goods claims causes claims management and adjudication problems for both DOD and the carriers and results in increased government costs. The majority of the delays that took longer than six months to file involved the service member's procrastination. Claims on similar commercial shipments must be filed within nine months of shipment delivery. (GAO, 1989)

While claims data could be very useful in measuring carrier performance, DOD does not fully use this data in selecting carriers for move DOD shipments. It is in the best interest of DOD and the service member to reduce the potential for damage to household goods shipments. However, the current system allows poorly performing carriers that cause high claims to continue transporting DOD household goods shipments. DOD needs to minimize the use of these carriers. This could be done more effectively by using claims performance data in selecting carriers.

As stated at the beginning of this section, Officers polled expressed concerns about claims redress. Should DOD move to a privatized system, the claims procedures would remain the same for the customers (i.e. the service members). The broker would be responsible for ensuring that contractual arrangements provided for adjudicating claims.

## **K. CONCLUSIONS**

This chapter has redefined the concept of this thesis. It has provided the reader with an evolutionary progression of our research. The three major areas of investigation were: the rate structure of the current system and industry, carrier bidding procedures, and the level of customer satisfaction. Chapter IV will analyze the data presented here.



#### IV. DATA ANALYSIS

##### A. INTRODUCTION

After viewing the data from chapter III we will attempt to analyze and substantiate our findings. While we have tried to ensure that the information analyzed is accurate, the fact remains that data concerning household goods shipments and its associated costs is poor. With this caveat, the data presented has been groomed to consider only those moves which correlate between DOD and the industry.

This analysis discusses four points represented by the data: The Me-too auction establishing household goods rates may be valid despite GAO's objections; costs paid by MTMC for household goods shipments seem to be comparable to off-peak prices available to individuals; cost is not the only variable that should be considered, many students polled find the existing system's customer service level unsatisfactory; DOD should explore the possibility of moving away from a centralized bureaucratic system and privatize this functional area of transportation.

##### B. "ME TOO" AUCTION

In its report entitled, "HOUSEHOLD GOODS, Competition Among Commercial Movers Serving DOD Can Be Improved," the General Accounting Office claims that MTMC's current bidding process is not a truly competitive approach to soliciting rates and should be altered. However, this mechanism may in fact accomplish its end effectively. This end is twofold: promote competition to obtain best value; maintain an adequate base of responsible and responsive bidders to execute the moves demanded by DOD. MTMC's two bid, or me too, process works as follows: Each bidder provides a price, expressed as a percentage of the government tariff rates and the quantity of service it is willing to provide at that price. There are

two rounds of bidding. The initial low bid is revealed at the close of the first round. For example, carrier one might bid a rate 125 percent of the tariff rate while carrier two bids 75 percent of the tariff rate. After this disclosure, all interested parties are asked to make their second bid. No consideration is given to the initial low bidder(s) after the second round has established the rates. Upon completing these two rounds, the carriers that bid the lowest rates are allocated all the traffic they can handle; then the next lowest bidders receive traffic and the process continues until all the traffic is apportioned. (This is a gross simplification of the assignment process described in Chapter II. A quality rating system is also employed and the actual carriers are assigned by the local PPSO. This simplified example illustrates the result of the bidding process.)

It is low bid disclosure and the lack of any special treatment to the first round low bidder on which GAO concludes that the "me too" process is an ineffective approach to bidding. Despite the fact that the GAO finding appeals to the "sense of fair play" with regard to the initial low bidder, there is no evidence to suggest that the "me too" approach is ineffective in gaining favorable rates or sufficient numbers of carriers. Figure 4 shows the results for the "me too" approach as a cumulative distribution. Following the revelation phase, the vast majority of the carriers shift their bids in line with the initial low bid and below the tariff rate. This is fully expected, and by itself does not suggest "me too" bidding is either efficient or inefficient. GAO, however, offers the General Services Administration's (GSA) single bid method of obtaining rates as preferable while not establishing credibly the nature of such a comparison. What these two bids seem to accomplish is to provide every bidder extra information in the form of one "best" offer in the industry.

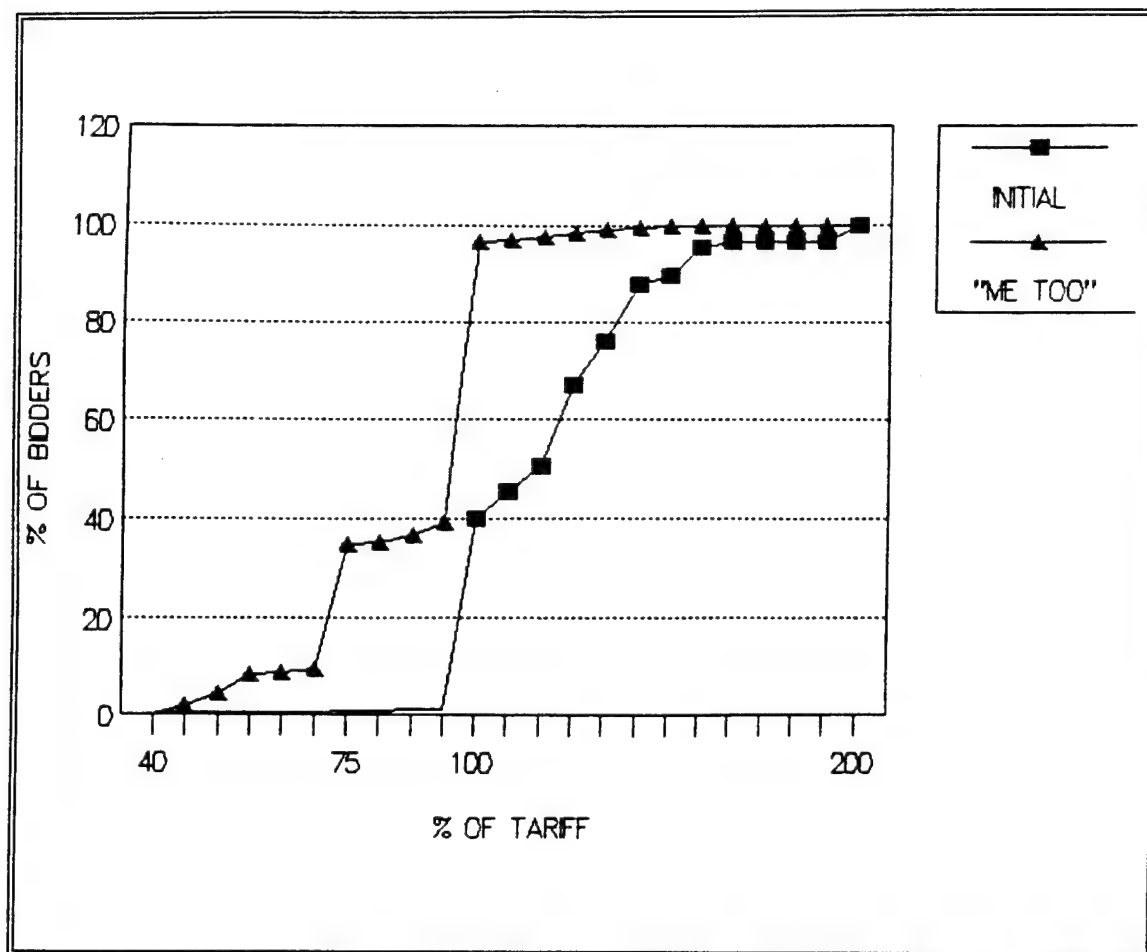


Figure 4. "Me Too" Auction Cumulative Distribution

Having illustrated the possibility that DOD benefits from the "me too" process, the next consideration is even more fundamental. Does the "me too" process help or hinder the government in the auction environment? Although the numbers indicate that "me too" helps, numbers often skew our view of the dynamics involved, especially when they equate to costs. At the most essential level, bidding is the forum in which parties exchange information concerning how they value a particular service. The more risk adverse the bidder, the closer the bid to the actual valuation. This increases the probability of winning the auction at the expense of expected profits. The buyer, on the other hand, benefits in this



situation by the competition among the bidders. The bidders go as low as possible to preclude a competitor from beating them. In this context, revealing too low of an initial bid is irrational for the bidder when there is a second round without any penalty. This encourages a relatively high bid in the final round and a lower second round bid.

The following excerpt concerning the bidding for television rights to the Olympics from Games, Strategies, and Managers describes the rationale from the seller's point of view:

The Soviets in contrast to the Canadians orchestrated a bidding war between the three (American) networks.... Then they played one off against another, letting each know the details of their rivals current best bids.... The Soviets failed to keep several promises. They promised to keep bids secret, but did not;.... This may have been unethical but it was not irrational.... But the Soviets destroyed the networks solidarity by playing one off against the others. (McMillan, 1992)

The methods employed by MTMC are hardly as Machiavellian as the Soviets' methods, but the rationality of the procedure is still germane. MTMC merely increases the information available to all parties after the first round to increase the government's gain in the second round. Unlike the Soviet example, there is no ethical question since the "me too" phase is understood by all parties.

While it is true that MTMC reveals a bidder's value to its competitors, it is not true that this process dictates a loss of competition in this procurement, as GAO maintains. On a fundamental level, MTMC encourages an exchange of information between all parties which is consistent with the general theory of auctions.

### **C. COST**

At the outset of this research, we attempted to evaluate whether the cost paid by DOD for household goods was inflated and could be improved if the service member arranged for the move independently. Our field study indicated that the cost paid by DOD was probably not as bad as originally surmised. In fact, carriers gain access to DOD traffic by bidding on a percentage of the tariff. The government's actual payment and individuals' rates are approximately equal regardless of seasonality. This statement is based on the relationship between the seasonal discounts encountered in the field study and the fact that DOD carriers are being paid all year at some percentage below the baseline. Thus, DOD captures these discounts all year round, through its bargaining power.

### **D. CUSTOMER DISSATISFACTION**

Cost is not the only variable that should be considered when evaluating MTMC's service. Customer satisfaction is important since there is no reason to provide a service that the customer neither considers salubrious or effective. This is true when you consider that household goods are being moved to benefit the customer. While it can be argued that DOD conducts household goods moves for its own benefit, this is a specious argument. DOD does not have to ensure the service member with such a high level of service. It would simply provide the member a with moving allowance. It should be recalled that this move package is an entitlement. As such, it is focused on the recipient rather than the provider as a matter of law.

Given the importance of customer satisfaction in evaluating household goods service, the poll results presented in Chapter III show problems with DOD's current service. Seventy percent of those polled indicate some level of dissatisfaction with the current household goods system. This

implies that the system is not delivering acceptable service.(Figure 3) Further, as stated in Chapter III, the poll focused on the process rather than on a particular move/carrier. Sixteen percent of those polled were willing to pay money out of pocket to bypass the current system. This illustrates the current system's failure to provide a service that the customer values.

While it is easy to give a poll and record the results, it is not as easy to interpret the rationale that led to the answers collected. The poll focused on the system, so it is possible to categorize facets of the existing system that could cause such negative results. As stated in Chapter II, the current household goods system is a bureaucratic organization which has developed a formalized method for executing its function. This system allows little latitude for differing customer needs. This conveys a certain disregard for the customer. The overall effect of these rules and regulations leads to wide spread system disapproval. Additionally, existing quality standards for carriers are non-rigorous. Quality points are assigned to such factors as on time pick up and delivery. While important, these areas of evaluation seem to set a minimum standard rather than focusing the carrier on a maximum level of service.

The dichotomy between lower costs and customer dissatisfaction implies that the system's general quality is suboptimal. As a result of this evaluation, it is necessary to identify a possible solution to this dilemma.

#### **E. PRIVITAZATION**

In Chapter III, we presented the results of an industrial comparison. This survey of industrial firms revealed the fact that if you have ample funds, such as in Martin Marietta's cost reimbursable contract, you can conduct business with little regard to your costs. However, if you need to cut

overhead, like IBM, using a broker can capture the same economies of scale and bargaining power. The DOD situation bears a greater resemblance to the latter. This section will show the basis for exploring privatizing DOD's household good system. This may seem extreme. However, moving household goods does not impinge on National Security or force readiness. Privatization provides a viable method for reducing costs for infrastructure by eliminating personnel and facility cost elements.

DOD holds a unique place in the commercial moving industry. In the years represented in Figures 5 and 6, DOD represented between 9 and 13 percent of the industry's movements and their revenue. It would seem that DOD could capture economies of scale and bargaining power. However, examining the data in Figures 5 and 6 implies that the government was not taking advantage of its considerable market position.

There is no evidence to suggest that the government was able to capture any economies of scale in the market. From 1990 to 1993, DOD's cost grew at a higher rate than the growth in moves. This suggests that the government is awkward at taking advantage of such situations. Private companies can directly alter their cost structures as they increase their output.

DOD has not exhibited the market savvy to exploit its recent bargaining power advantage. The field study described in Chapter III indicates that DOD does about as well as an individual entering this market. As illustrated in Figure 6, DOD gained an overwhelming percentage in the industry in 1991 and 1992. Yet cost continued to grow at a steady rate during this period. Considering that the overall market demand softened, one would expect that DOD could exert pressure on carriers to provide favorable rates. Cost growth higher than

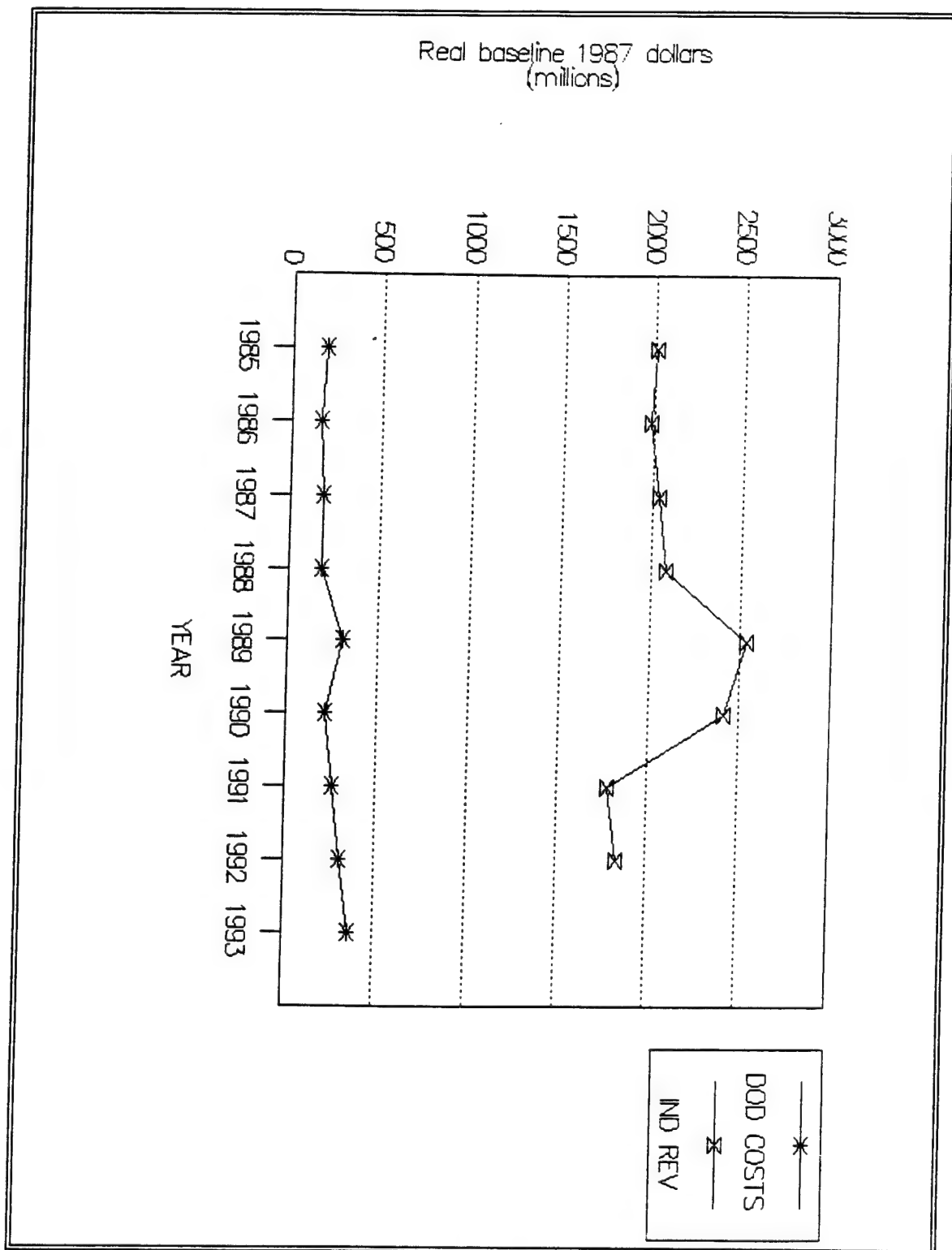


Figure 5. DOD Cost vs. Industry Revenue

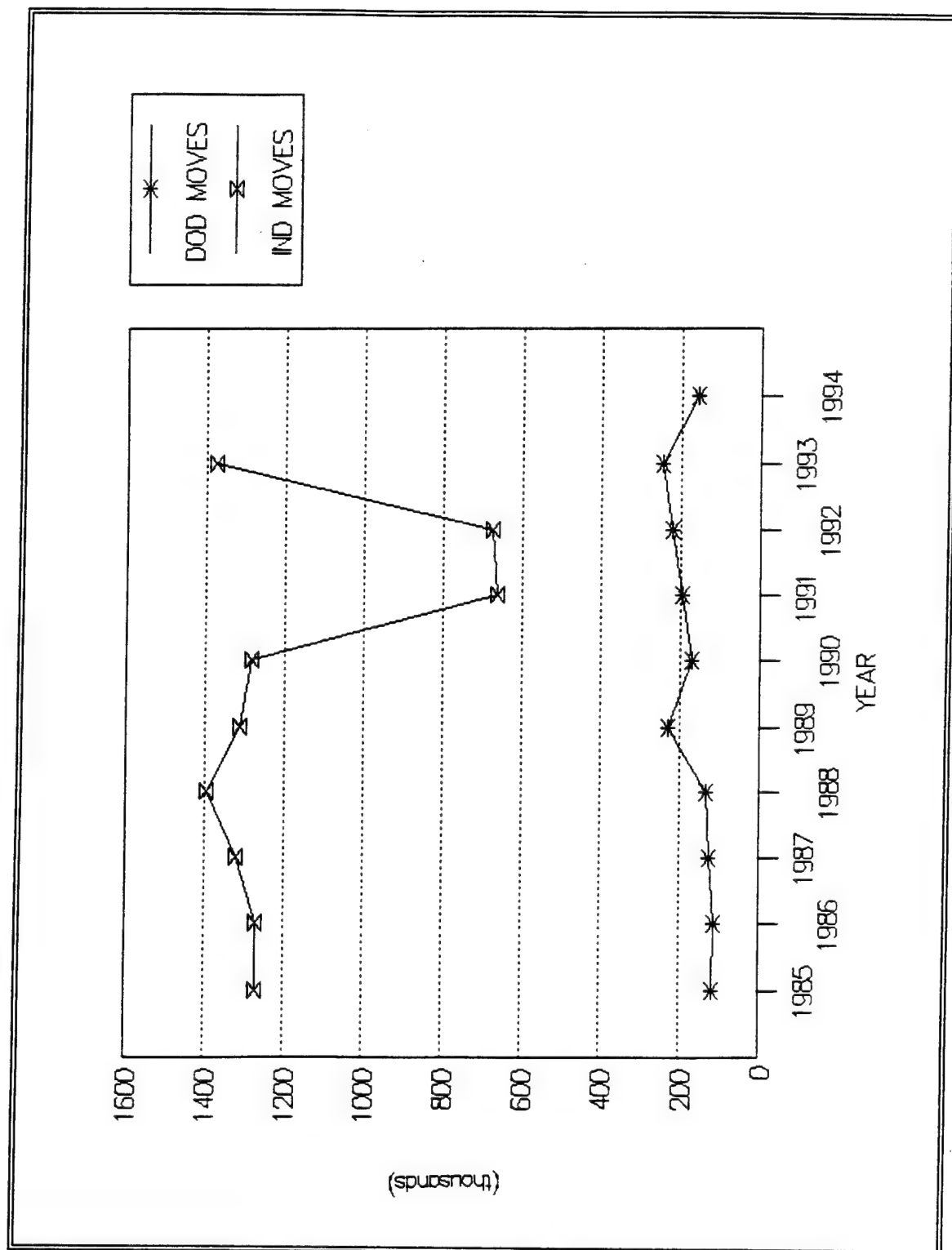


Figure 6. DOD Shipments vs Industry Shipments

growth in the number of moves indicates the government did not capitalize on its bargaining power. While the "me too" bidding system may be an effective tool in establishing government rates, it does not seem to provide MTMC the flexibility to exploit a major market downturn as shown in Figure 6.

Figure 7 demonstrates that DOD will have limited bargaining power in the future. DOD moves grew in the early 1990's due to the military drawdown. (The entitlement to a move includes a final move when the member decides to separate.) As a result of exit bonuses and tougher first term reenlistment criteria, the number of moves increased. DOD's percentage of industry moves will shrink in the long term as we have fewer people to transfer. This will erode DOD's bargaining position.

Would DOD benefit from privatizing the household goods functional area? Engaging a contractor to serve as a broker for DOD moves makes sense for three reasons. One, if better values are to be found in the market, DOD has not been able to exploit these opportunities. DOD is operating on a plane equivalent to a private citizen. Brokers, with their client base supplemented by an influx from DOD, should be able to use market forces to lower the per move costs. DOD is currently using it in the Health Care arena, with Tricare. Similarly, if a corporation such as IBM is able to reduce overhead by using a broker, DOD should be able to do so as well. The strictures of Federal employment notwithstanding, DOD would experience lower personnel and facility costs. The savings accrued from privatization could be spent in areas more critical to the military than moving household goods.

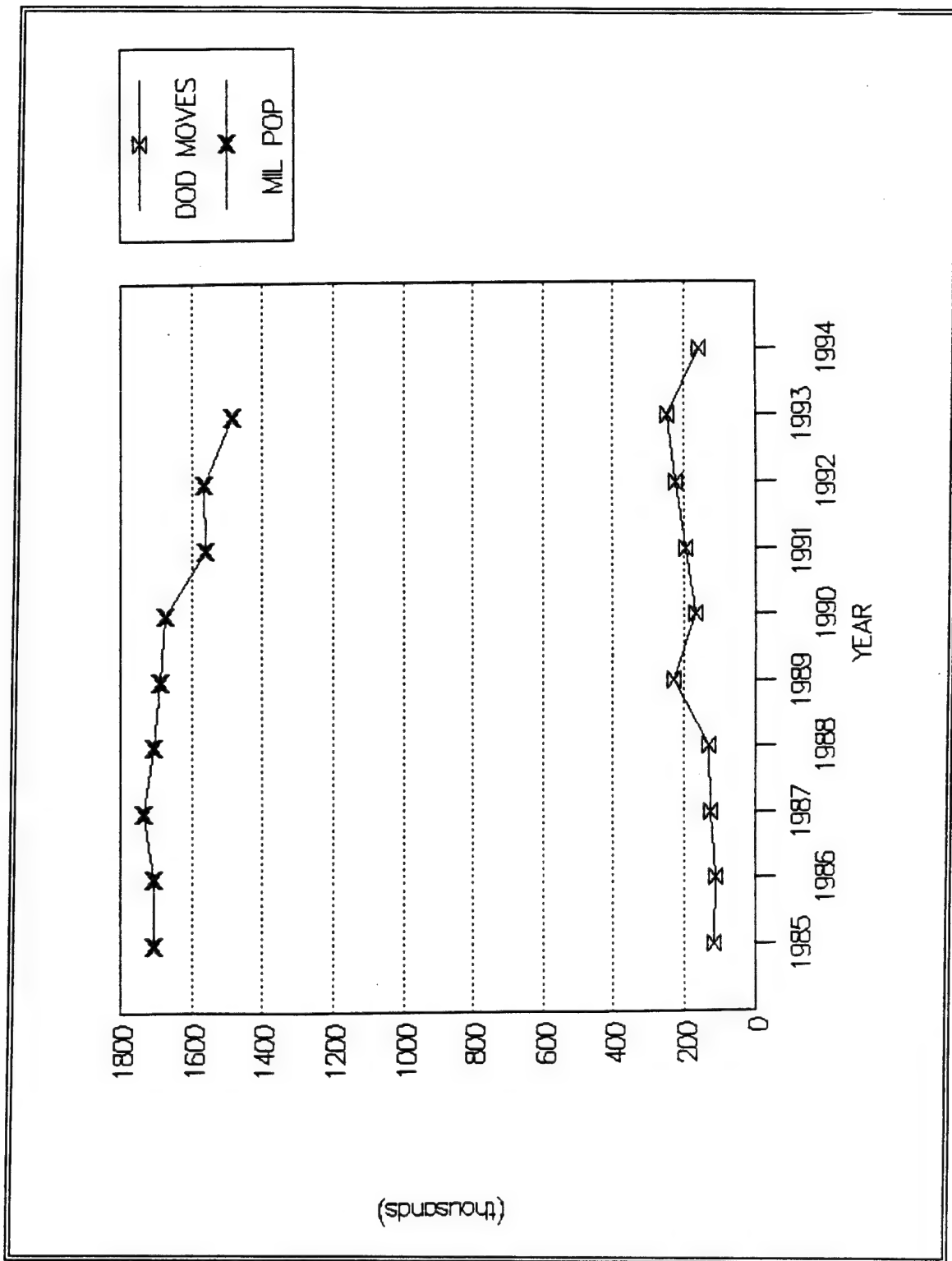


Figure 7. DOD Shipments vs Military Population





## V. CONCLUSIONS AND RECOMMENDATIONS

### A. CONCLUSIONS

In Chapter I we posed three primary research questions. This section reviews each of them and provides the answers.

1.) Is DOD receiving the best value for its expenditures on HHG moves within CONUS? GAO contends that DOD's HHG bidding process is not truly competitive. However, our research did not provide the data to validate GAO's findings. The auction environment provided by DOD is not necessarily at odds with attaining the best value. We believe that DOD may be effective in realizing their goal by using the "me too" system. They may be getting a lower rate from a larger number of bidders, thereby saving money using the current process.

2.) Are service members satisfied with the current system? Based on the results of our poll the answer appears to be no. Seventy percent of those polled expressed dissatisfaction with the system. As stated in Chapter III the poll was developed to gauge the effectiveness of the HHG process with respect to customer service. This level of dissatisfaction indicates that potential problems should be investigated.

3.) Is it possible that privatizing the system would better serve DOD's requirements for HHG moves? Yes, it is possible. There is a great potential for DOD to reduce costs by privatizing. Privatization will allow for infrastructure cost reduction. With the recent switch to DBOF, it makes sense for DOD to consider privatizing the HHG system to reduce the cost of moving.

The secondary questions we addressed are as follows:

1.) Is change feasible? We suggest that change may be feasible. There are several means to implement change. This chapter will provide a two alternatives.

2.) Is DOD a significant portion of the annual HHG movements in CONUS? Based on the data collected, it appears that DOD comprises between nine and 13 percent of the HHG moving industry. Is this significant? Probably. However, as the drawdown levels off so will the number of DOD moves. This will reduce its percentage of the industry.

3.) What areas will be changed (entitlements, contracting requirements, etc...)? The most likely area to change would probably be the way in which HHG moves are contracted. At present, it may be the most feasible alternative and one that does not necessarily need congressional approval.

## **B. RECOMMENDATIONS**

The major issue that needs to be addressed is should DOD continue to use their current centralized system for moving HHG or should the system be privatized? DOD has already made great strides to privatize certain functional areas, as with medical care and the Tricare system. It is reasonable to assume that HHG system could be successfully privatized.

We have tailored our recommendations for two possible avenues of change.

The first, DOD continues to use the current system. Should DOD choose this path, there are several things that they must change to make the system more effective. First, DOD should improve data collection and maintain an up to date database using a state of the art accounting system that captures relevant costs. The database currently being used was developed in 1984. It is in desperate need of updating. This will provide the true cost of the HHG program. DOD should also continue their quality initiatives and expand them to help weed out any carriers that consistently fall below the minimum standards. This would help DOD focus on

improving the perceived customer service level. Finally, further research into the causes of dissatisfaction is warranted.

The second avenue is privatization. Should DOD decide to privatize, an extensive cost/benefit analysis would help establish viability. IBM's broker system may be an option that DOD should consider. IBM appears to have reduced overhead costs considerably by changing to such a system.

We would recommend further research in the HHGs area to develop a system that will provide a high level of customer service at the lowest possible cost and still meet the needs of DOD and its employees.



## LIST OF REFERENCES

Bonvechio, Donna L. Traffic Management Specialist, Traffic Division, Directorate of Personal Property, Military Traffic Management Command, Western Area, Oakland, CA, (June 3, 1994).

Department of Defense Instruction 4500.34-R Series, Chapter 6-B.

Department of Defense. Defense Acquisition Management Policies and Procedures, DOD 5000.2, (February 23, 1991).

Department of Defense. Introduction to the Defense Logistics Studies Information Exchange, Government Printing Office, Washington, DC, (1992).

Department of Defense. Joint Federal Travel Regulations, Washington, DC.

Domestic Property Rate Solicitation D-2(RSD-2). Directorate Personal Property, Headquarters, Military Traffic Management Command, Falls Church, VA, (November 1990).

Economic Report of the President. United States Government Printing Office, Washington, DC, (February 1994).

Gauss, R. Headquarters Military Traffic Management Command, Falls Church, VA, Phone interview, (October 1994).

Government Accounting Office. HOUSEHOLD GOODS, Competition Among Commercial Movers Serving DOD Can be improved, Washington, DC, (February 1990).

Government Accounting Office. HOUSEHOLD GOODS, Evaluation of DOD Claims Payment and Recovery Activities. Washington, DC, (February 1989).

Guzman, Dorothy. IBM, Phone interview, (April 1994).

Habib, Joseph. American Movers Conference, Alexandria, VA, Phone interview, (October 1994).

Hammer, Michael. Harvard Business Review, "Reengineering Work: Don't Automate, Obliterate," (July-August 1990).

Household Goods Carriers Bureau (HGCB). The Transportation Fact Book, Alexandria, VA, (1991-1994).

Locke, John. Of Civil Government., New York, Dutton, 1940.

Manual of the Judge Advocate General(JAGMAN), Ch. XXI, Washington DC, (1992).

Martin Marietta Energy Systems, Inc. ST-101, "Relocation Assistance for New Hires and Transfers from other Martin Marietta Companies and Reimbursement of Interview Expenses," Oakridge, TN, (May 1992).

McMillan, John. Games, Strategy and Managers, Oxford University Press, New York, NY, 1992.

Military Traffic Management Command. How to do Business in the Department of Defense Personal Property Program. Military Traffic Management Command Pam 55-4, p. 11-12.

Military Traffic Management Command. Personal Property Handbook for Contractors, Military Traffic Management Command. Oakland Regional Office, (November 1992).

Military Traffic Management Command-QQ(55). Total Quality Assurance Program. Directorate of Personal Property, Military Traffic Management Command, Falls Church, VA, (November 1991).

Naval Supply Systems Command Instruction 490 Series, Ch. 8.

Naval Supply Systems Command. "Transportation Operational Standard System (TOPS) Field Test." (August 1983).

Shoop, Tom. Government Executive, "The Reinvention Rage," (March 1993).

Woodard, Elaine, Director, Personal Property Division Naval Postgraduate School, Monterey, Ca, (April 1994).

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